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10/540,214	06/20/2005	Lionello Caregnato		5247

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EXAMINER

SCHIRO, RYAN RAYMOND

ART UNIT	PAPER NUMBER
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4172

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/540,214

Applicant(s)

CAREGNATO, LIONELLO

Examiner

RYAN SCHIRO

Art Unit

4172

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6 and 8-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 and 8-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 100)
Paper No(s)/Mail Date 09/19/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1, 3-6, and 8-15 are pending and presented for examination.

Claims 2, 7 and 16 are cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 6, 8, 9, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guderzo (EP 0794299 A1) in view of Te'eni (WO 94/04349).

Claims are drawn to a method for producing continuous waterproof flooring characterized in that it is obtainable exclusively by coupling two distinct layers in a two step process. Claim 3 further requires the two component liquid contains at least one polymer latex and one hydraulic binder; Claim 6 further requires that the two component liquid adheres the fibrous layer to the foundation; Claim 8 further requires the fibrous material; Claim 9, 11 and 14

further require at least one component of the coating is an acrylic polymer, an epoxy primer, and a polyurethane resin, respectively.

Guderzo teaches laying, on a previously prepared foundation, a first layer composed of a mix having elastoplastic characteristics, laying on said first layer a microscopically perforated membrane, preferably made of polypropylene having low water-permeability and good water-vapor permeability characteristics, and laying on said membrane a second layer that is similar to said first layer (col. 2, lines 22-29, col. 3, lines 5-8). The first layer of the mixture having elastoplastic characteristics provides adhesion to any foundation (col. 2, lines 45-49). The first layer of the mixture is composed of aggregates, hydraulic binders, additives, polymers and water (col. 2, lines 50-54). This layer thus comprises a cement mortar composed of a mix of water-hardening binders with inert materials with the addition of at least one polymer, such as a polyacrylic resin (col. 2, lines 56-59). Therefore, the mixture as required by claim 3 and acrylic polymer as required by claim 9 are taught by the reference. The membrane is transparent with respect to the first layer of the elastoplastic mixture by means of the fine perforation and the membrane also allows for immediate walking (col. 3, lines 9-14).

Guderzo does not explicitly disclose a fibrous reinforcing base layer or that the surface is vehicle-suitable" as required by claim 1. Also, the reference discloses a three step coating process instead of a two step process as required by claim 1.

Te'eni teaches a fibrous surface layer impregnated with a water dispersible polymeric resin and then with a cementitious slurry in a "wet" state. Examples of such water dispersible polymeric resins include epoxy resin and polyurethane resin, as required by claims 11 and 14 (p. 8, para. 2). The fibrous surface layer is then directly applied in a "wet" state to the surface of the

concrete body (p. 11, para. 2). The fibrous layers may be of natural or synthetic fibers, such as polyester textile fibers, polypropylene fibers, and the like. Each fibrous layer may be made of woven, non-woven, knitted, knotted, net-like material, or the like, such that it defines interconnection internal voids capable of being impregnated by a bonding agent in the form of a cementitious slurry which results in the formation of a continuous phase completely imbedding the fibrous material and bonding it (p. 4, para. 1). The fibrous layer taught by Te'eni satisfies the fibrous layer requirements of claim 8.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the first layer of mixture and preferably polypropylene membrane of Guderzo with the fibrous layer, preferably of polypropylene, impregnated with a polymeric-cementitious liquid as taught by Te'eni. A person ordinarily skilled in the art at the time of the invention would have been motivated to make this modification because it would eliminate a step in the process of Guderzo while achieving essentially the same composition and the fibrous layer of polypropylene with similar permeability properties would give more strength to the coating than a polypropylene membrane. It also would have been obvious to a person ordinarily skilled in the art at the time of the invention that the polymeric resin and cementitious slurry of Te'eni is the same as the mixture required by claim 1 and the mixture taught in Guderzo. Guderzo teaches the first layer of the mixture having elastoplastic characteristics provides adhesion to any foundation (col. 2, lines 45-49). It would have been obvious to a person ordinarily skilled in the art that the mixture could also provide adhesion for the substituted fibrous material as required by claim 6. Also, it is the object of Guderzo to produce flat coverings by quick laying and at low costs (col. 3, lines 25-27). The modification previously suggested would make the process of Guderzo

quicker by eliminating a step, and therefore in accordance with the object of the invention. A vehicle is considered by the examiner as "any non-living means of transportation". This can include a bicycle, skateboard, rickshaw or the like. It would have been obvious at the time of the invention for a walk able surface to be vehicle suitable for certain vehicles that are less than or equal to the weight of an average person. It would have been obvious because it is assumed that a small vehicle could surely travel across any surface that a person could walk across.

Claims 5, 10, 12, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guderzo (EP 0794299 A1) in view of Te'eni (WO 94/04349) further in view of Discho (US 6489032 B1).

Guderzo in view of Te'eni does not teach that the two component liquid acts as the waterproofing agent, as required by claim 5; Claims 10, 12 and 13 require at least one component of the coating is a styrene-acrylic ester copolymer, a methacrylic polymer or an unsaturated polyester resin; Claim 15 requires the polymer resins in the coating can be transparent colored or pigmented.

Discho relates to membranes for use in the waterproofing of cementitious structures. The waterproofing layer of Discho is provided by a composition which comprises as a binder an aqueous dispersion of coalescable particles of thermoplastic polymer (col. 1, lines 45-47). The aqueous dispersion of coalescable thermoplastic polymer particles may be chosen from suitable polymers including polyurethanes, polyesters, vinyls and acrylics, among a wide range of materials known in the art (col. 2, lines 10-14). Copolymers of vinyl chloride and/or vinyl acetate with acrylic monomers such as methacrylic acids are specific examples of suitable materials for the polymer portion of the aqueous dispersion of coalescable thermoplastic polymer particles

(col. 2, lines 30-31). There may also be added to the composition of Discho standard ingredients in art-recognizable quantities, such as coloring agents as required by claim 15, whose presence may be beneficial (col. 2, lines 58-63). The structure thus formed by Discho has excellent waterproofing properties, coupled with excellent water vapor permeability, thus allowing any trapped water to escape through the membrane and avoiding any interfacial failure, in addition to being durable, safe, easy to apply and relatively inexpensive (col. 3, lines 57-62). The composition of example 1 of Discho includes a styrene-acrylic ester copolymer, as required by claim 10 (col. 4, lines 1-9).

It would have been obvious to a person ordinarily skilled in the art to combine the teachings of Guderzo in view of Te'eni with the teachings of Discho. One would have been motivated to combine these teachings because the object of Discho is to create a layer with excellent water vapor permeability and no water permeability, in addition to being durable, easy to apply and inexpensive. It is also the object of the teachings of Guderzo and Te'eni to limit water permeability, lower costs and make application easier.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guderzo (EP 0794299 A1) in view of Te'eni (WO 94/04349) further in view of Discho (US 6489032 B1) further in view of Angel et al. ("Waterproof membranes for concrete surfaces protection").

Guderzo in view of Te'eni further in view of Discho does not teach that the first layer has the ability to bridge the cracks in the foundation, as required by claim 4.

Angel teaches coating concrete constructions with cement-bound waterproof membranes based on cement and aqueous polymer dispersions (p. 1, para. 1). The work of Angel has ascertained that the polymer cement ratio should be greater than 0.7 but less than 1.0 to 1.2 if

adequate hairline crack bridging capacity is to be ensured (p. 8, para. 3). Styrene-acrylate dispersions were used to create membranes with polymer to cement ratios from 0 to 1.2 (p. 8, para. 1).

It would have been obvious to a person ordinarily skilled in the art at the time of the invention to modify the styrene-acrylic copolymer of Discho with the limitations of crack bridging capacity that are taught by Angel. One would have been motivated to apply the specific compositions of Angel that have the desired crack bridging properties to the application of Guderzo in view of Te'eni further in view of Duscho because the object of Angel is to create a polymer and cement waterproof layer, as in the object of the other three references.

Conclusion

Claims 1, 3-6, and 8-15 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Schiro whose telephone number is 571-270-5345. The examiner can normally be reached on Monday-Thursday from 8 AM to 6:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Schiro
Art unit 1792

/Michael Barr/

Supervisory Patent Examiner, Art Unit 1792